

## **AGENDA ITEM #12**

March 11, 2005

To: Delta Protection Commission

From: Margit Aramburu, Executive Director

Subject: Focus on Background Reports: Agriculture and Levees  
(*For Commission Discussion*)

### **BACKGROUND:**

The DPC has started the process to review and where necessary update the Background reports prepared in 1993-1994. A notice has been mailed to the DPC's Interested Parties mailing list stating the update process is underway. At the end of the update process, the DPC will consider possible amendments to the Land Use and Resource Management Plan for the Primary Zone of the Delta.

At each of the DPC's meetings this year, background reports will be highlighted. This will allow the Commissioners to revise the background reports before the meetings. At the meeting staff will answer any questions about the background reports. In addition, the Commissioners can pass on comments or information that would assist staff in updates of the background reports:

- January Highlights: Delta Environmental, Recreation and Access, and Marine Patrol, Boater Education and Safety Programs.
- **March Highlights: Agriculture and Levees**  
Staff will be prepared to discuss these two background reports. The background reports are available on the DPC's web site ([www.delta.ca.gov](http://www.delta.ca.gov)) or from staff.

NOTE: Findings are based on the information in the background reports; policies are mandatory and are now incorporated into the Counties' General Plans, and recommendations either apply to areas outside the Primary Zone, or to State and Federal agencies.

## AGRICULTURE

Delta agricultural lands were "reclaimed" through construction of levees and drainage of the marshy islands of the area. In less than 100 years, from 1850 to 1930, hundreds of thousands of acres of land went into agricultural production. The farmers and landowners represented a cross section of the new Americans-- Slavs, Dutch, German, English, and others. Many groups of immigrants first labored in the fields, then went on to become landowners or tenant farmers including Portuguese, Chinese, Japanese, Filipinos, and Hindus.

Early crops were grains, and fruits and vegetables marketed in the nearby cities. Early specialty crops included wheat, barley, beans, and potatoes. Later asparagus, sugar beets, tomatoes, and celery grew in popularity. Currently, the Delta counties raise a variety of crops including grains, fruits, field crops, nuts, seeds, pasture and alfalfa, and vegetables. In the recent past, thousands of acres of agricultural lands were developed for residential and other urban uses. Between 1976 and 1993, about 21,600 acres in the Secondary Zone of the Delta were developed. Of the 21,600 acres, about 5,800 acres were orchards. The biggest change in the Primary Zone in that period in was the planting of about 4,500 acres of new orchards and vineyards. Loss of steady water supplies for Valley farmers will tend to make Delta lands with their riparian water rights more valuable for agriculture. New markets to sell crops and new crops, including crops to burn as energy sources, will continue to keep agriculture an important land use in the Delta and California.

Local governments have certain limited regulatory authority over agricultural lands, including minimum parcel sizes. While each of the five Delta counties has different minimum parcel sizes, each County clearly delineates the Delta lands for long-term agricultural use. Local governments use "land use tools" such as an agricultural element in the General Plan, adoption of an urban limit line, buffers between agriculture and other approved uses, adoption of a Right to Farm ordinance, controls over subdivisions of agricultural lands, limitations on land uses allowable in the agricultural zone, limitations on changing General Plan designations, acquisition of conservation easements, transfer of development rights, and full support of Williamson Act programs.

Agricultural lands provide rich seasonal wildlife habitat. Thousands of acres of agricultural lands are flooded after harvest and provide feeding and resting areas for local and migratory birds and other wildlife. Development of a management plan for seasonal flooding helps maximize the wildlife values and lessen opportunities for agricultural pests.

Goal: To support long-term viability of commercial agriculture and to discourage inappropriate development of agricultural lands.

### **Agriculture Findings:**

F-1. The State of California has about 30 million acres of agricultural land out of a total of 100 million acres in the United States. Of the 30 million acres of agricultural lands,

about 8 million are irrigated. California leads the nation in the production of food and fiber. California agricultural products are diverse, with over 250 crops and livestock commodities, and with no one crop dominating. The value of farm products statewide in 1992 was \$18.1 billion, over 9% of the State's economy. Each California farmer produces enough food and fiber for 129 people, including 97 people in the U.S. and 32 abroad.

F-2. The State of California tops the list of states losing farms. In 1992, California lost 4,000 farms. However, the average farm size increased slightly from 468 acres to 473 acres (about 1%).

F-3. The total agricultural income for the five Delta counties is \$1.6 billion dollars (1993). The Delta portions of the five counties are some of the most valuable agricultural land in each County due to the rich peat and mineral soils and the riparian water supply.

F-4. The Delta counties designate the Delta lands primarily for agricultural use; Contra Costa County has a special "Delta Recreation and Resource" designation for the Delta islands.

F-5. New trade and export opportunities will probably increase markets for California's agricultural products. Currently State exports are at \$4.7 billion.

F-6. Consumer trends, new crops, and new uses for crops will continue to change the face of agriculture. Examples are growing crops for fuel for power plants and cars; reuse and recycling of portions of crops such as cotton seed and soybean oil for fuel and corn stalks as a fuel source.

F-7. Current trends, regulations, and programs are resulting in reduced use of chemical fertilizers, pesticides, and herbicides. There is an increasing use of biochemical agents and integrated crop management. Farmers need to maintain or increase crop production levels.

F-8. As in other parts of government, program costs such as information gathering and dissemination are being shifted from government to agriculture. Costs of regulation are also being shifted to users, reflected in larger permit fees, etc.

F-9. Local government has used various means to protect agricultural land uses: adopting right to farm ordinances, adopting rules prohibiting subdivision of lands under Williamson Act contract, adoption of urban limit lines, requiring buffers between non-agricultural and agricultural land uses, increasing minimum parcel sizes, adopting an agricultural element to the General Plan, adopting criteria to evaluate proposals to take land out of agricultural use, purchasing conservation easements (development rights) to compensate landowner for loss of development potential, and allowing transfer of development rights from agricultural parcels to other parcels.

F-10. Conflicts between agricultural activities and new residential, commercial, industrial, and recreational uses create long-term conflicts which have a deleterious

impact on agriculture. Complaints by non-farmers include: noise, dust, odors, flies, mosquitoes, aerial applications of fertilizer, pesticide and herbicide, night activity, and other aspects of normal agricultural activity. Complaints by farmers include trash, vandalism, increased traffic, loss of agricultural land, and dust.

F-11. Programs at State and federal level support land management to enhance habitat values on private agricultural lands. Some programs will result in permanent conversion of agricultural land. Examples include: creation of wetlands on agricultural lands; seasonal flooding of agricultural lands; deferred tillage; deferred harvesting of grains; enhancement of field edges as habitat; and planting native plants along roadways and between fields. However, many of the existing programs do not reflect the unique Delta resources and opportunities.

F-12. Agriculture in the Delta evolves as farming practices, market opportunities, and government programs change. Availability of water makes the Delta a unique geographical region for agriculture. Future agricultural practices may require construction of additional infrastructure to accommodate more intensive agricultural operations.

### **Agriculture Policies:**

P-1. Commercial agriculture in the Delta shall be supported and encouraged as a key element in the State's economy and in providing the food supply needed to sustain the increasing population of the State, the Nation, and the world.

P-2. Local governments, as defined in Public Resources Code Section 29725, shall identify the unique qualities of the Delta which make it well suited for agriculture. These qualities include: rich soil, ample supplies of water, long growing season, mild climate, and proximity to packaging and shipping infrastructure. The unique physical characteristics of the Delta also require that agricultural landowners maintain extensive levee systems, provide flood control, and have adequate drainage to allow the lands to be farmed.

P-3. Education of the local populations about the value and rich heritage of agriculture in the State and in the Delta shall be continued and expanded.

P-4. Local governments shall support long-term viability of commercial agriculture in the Delta because of its economic and environmental importance to the State and local communities.

P-5. Support shall be given to current and alternative programs that help to minimize the need for costly production inputs such as fertilizers, pesticides, and herbicides as long as crop production levels and agricultural income can be maintained. Improving crop production and agricultural income is vital to the success of Delta agriculture.

P-6. Each local government shall continue to implement the necessary plans and ordinances to: maximize agricultural parcel size; reduce subdivision of agricultural lands; protect ordinary agricultural activities; protect agricultural land from conversion to other

uses; and clearly define areas in that jurisdiction where urban land uses are appropriate and where agricultural land uses are appropriate. An optimum package of regulatory and incentive programs would include: (1) an urban limit line; (2) minimum parcel size consistent with local agricultural practices and needs; (3) strict subdivision regulations regarding subdivision of agricultural lands to ensure that subdivided lands will continue in agriculture; (4) delete from zoning ordinances "other" land uses which are not compatible the agriculture; (5) require adequate buffers between agricultural and non-agricultural land uses particularly residential development outside but adjacent to the Primary Zone; (6) an agriculture element of the general plan; (7) a right-to-farm ordinance; and (8) a conservation easement program.

P-7. Local governments shall encourage acquisition of agricultural conservation easements as mitigation for projects within each county, or through public or private funds obtained to protect agricultural and open space values, and habitat value that is associated with agricultural operations. Encourage transfer of development rights within land holdings, from parcel to parcel within the Delta, and where appropriate, to sites outside the Delta. Promote use of environmental mitigation in agricultural areas only when it is consistent and compatible with ongoing agricultural operations and when developed in appropriate locations designated on a countywide or Deltawide habitat management plan.

P-8. Local governments shall encourage management of agricultural lands which maximize wildlife habitat seasonally and year-round, through techniques such as sequential flooding in fall and winter, leaving crop residue, creation of mosaic of small grains and flooded areas, controlling predators, controlling poaching, controlling public access, and others.

P-9. Local governments may continue to retain agricultural zoning and minimum parcel sizes as described in zoning codes in place January 1, 1992. Where minimum parcel size is less than 40 acres, local governments shall describe how smaller parcel sizes will support long-term viability of commercial agriculture in the Primary Zone. This policy shall not be construed to require the re-zoning of subminimum parcels.

P-10 (i) Local governments may develop programs to cluster agriculture-dependent residential units or transfer development rights (TDRs) to off-site locations. Clustering on a single farm would be for family members or employees and would not exceed maximum number of units allowed under existing zoning as of January 1, 1992. Clustering would be accompanied by conditions to preserve agricultural use and open space values on the balance of the property. TDRs may involve transfers from farms to Primary Zone communities with adequate flood protection to protect residential use, or to sites out of the Primary Zone.

(ii) Local governments that pursue clustering or transfer of development rights shall proceed with adoption procedures to implement such programs as part of the local government implementation of the resource management plan.

(iii) Where portions of cities are located within the Primary Zone, cities shall indicate zoning which was in place on January 1, 1992. Future changes to city general plans or zoning ordinances shall conform to the resource management plan.

#### **Agriculture Recommendations:**

R-1. Programs to educate California and the U.S. about the value and diversity of California agriculture should continue. Education should provide information about various crops and about the different agricultural regions, such as the Delta.

R-2. As new information on best management practices to control subsidence of peat soils becomes available, the Commission should review that information and, if appropriate, amend the Plan.

R-3. The five Delta county Farm Bureaus should coordinate on issues of joint Concern.

### **LEVEES**

Constructed levees are the key physical element which create and maintain the Delta as we know it today, allowing draining of the low-lying lands for agriculture. The levees protect human life and existing structures from flooding, define channels used for commercial navigation, create the Yolo Bypass, part of a regional flood control project, protect the upland habitat areas on the islands, and protect Delta water quality.

Largely due to subsidence, the failure of levees would result in flooded areas of substantial depths. Flood levels of fifteen (15) to twenty (20) feet can be expected at some locations. Due to wind and boat wave action, even the levee remnants and the habitat thereon will be eroded away as a result of a levee failure. Inundated areas will be similar to the areas known as Franks Tract and Mildred Island but with greater water depths. When levees in the Delta fail, there is a tremendous loss of wildlife habitat within the particular area flooded and the habitat remaining on the levee remnants is gradually eroded away. In addition to habitat losses, there is generally a significant loss of crops and destruction of farm equipment and farm buildings.

There are also other impacts associated with levee failures in the Delta including, but not limited to, severe alteration of the aquatic habitat that should also be recognized and noted. The levees surrounding the eight western islands have been determined to be of significance in maintaining the efficiency of salinity repulsion. Without such levee systems in place, greater amounts of freshwater will be required to provide comparable levels of salinity repulsion. When an island floods, due to the higher evaporation rate of flooded areas, more freshwater is lost to the atmosphere than would be used had the island been farmed. The result is an additional loss of about two acre feet per acre per year. This freshwater loss could be very significant if broad areas of the Delta were permanently flooded.

The levees were originally built by individual landowners to provide flood control. Later, reclamation districts were created which allowed the landowners in an area to assess themselves to build levees which benefited the group as a whole. These levees were not built to a common standard and are called "non-project levees" or "local levees". "Project levees" or "federal levees" were designed and built by a federal agency as part of a flood control or shipping channel project and are maintained by the State or a local agency. Some locally constructed levees were subsequently adopted as federal levees. Different standards have been adopted in the past regarding the growth and removal of vegetation on the levees. The construction-oriented agencies support vegetation control to allow maximum surveillance of the levees. Wildlife agencies promote growth of riparian vegetation to provide wildlife habitat. Agencies have recently adopted a new common standard.

While early levees were built to different heights and cross-sections, programs now require that non-project (local) levees at least meet the State's Flood Hazard Mitigation Plan standards to be eligible for federal financial assistance in case of a flood. The standard requires a levee crown elevation one foot above the 100 year flood elevation. In addition, to be eligible for Corps assistance in a Presidentially-declared Delta emergency, levees must meet or be able to show attempts to meet the PL-99 standard. The PL-99 Standard requires a levee crown elevation 1.5 feet above the 100 year flood elevation. Most levees were constructed from materials dredged from low-lying edges of islands, or adjacent channels. Emergency levee repairs have required importation of large amounts of riprap and other materials. Due to current concerns about the impacts of clamshell dredging on endangered fish species and water quality, dredging for levee maintenance has slowed. Other sources of material for levee maintenance are borrowed from island deposits or imported into the Delta.

Until the late 1970's, a significant portion of levee construction and maintenance costs were borne by the landowners. Under conditions, special funds from both State and federal programs provided assistance in emergencies. The State currently provides some funds for levee maintenance of non-project (local) levees. The State's current program, SB 34, is slated to sunset in 1999 and the monies in the program have varied from year to year. To continue high levels of levee maintenance, funds from multiple sources should be earmarked for a new or continued, permanent levee maintenance program. In addition, funds should be earmarked and set aside for emergency levee repairs and reclamation of flooded islands, perhaps in an infrastructure bank.

Levee maintenance work is regulated by multiple State and federal agencies. The regulatory authority and mission of the agencies is overlapping and in some situations contradictory. The length of time required and the amount of specialized information needed to obtain permits adds a considerable amount to the per mile cost of levee maintenance. The levee maintenance work is critical to maintain water quality in the Delta, to protect life and property, and to protect upland wildlife habitat. Emergency floodfight is coordinated by Department of Water Resources (DWR) and the reclamation districts. In an emergency, DWR can help provide labor and other resources. After a

levee break, the reclamation district must coordinate with federal agencies to receive assistance for levee repair and dewatering.

Goal: Support the improvement and long-term maintenance of Delta levees by coordinating permit reviews and guidelines for levee maintenance. Develop a long-term funding program for levee maintenance. Protect levees in emergency situations. Give levee rehabilitation and maintenance the priority over other uses of levee areas.

### **Levees Findings:**

F-1. Many Delta levees were originally built atop low natural levees along the waterways. The construction of higher levees was possible after the invention of the clamshell dredge. The levees were built of available material, without engineered designs.

F-2. The cost of constructing and maintaining the levees was born by the landowners and later by groups of landowners within reclamation districts. The reclamation districts are special districts created by the State that can assess landowners for the purpose of levee maintenance and drainage.

F-3. Large scale federal flood protection and navigation projects include about 25% of the Delta levees. These "project" levees were designed and constructed to standards set by the federal government on a case-by-case basis and are largely maintained by the State or other local agencies.

F-4. Local governments have responsibility to manage flood plains by controlling land uses and specific construction projects within the flood plains.

F-5. Guidelines for management of vegetation on levees promote grasses and limited tree growth allowing easy visual inspection and protection of the integrity of levees.

F-6. Where levees which are not routinely stripped of vegetation and become heavily vegetated, levee maintenance work will require removal of that vegetation; that loss of vegetation will likely require mitigation under the California Environmental Quality Act. Mitigation means replacement of the habitat which is removed, on site or nearby. The replacement ratio may be larger than the acreage removed.

F-7. For non-project levees to be eligible for FEMA assistance in an Presidentially declared disaster, reclamation districts must bring levees to the Flood Hazard Mitigation Plan standards. Those standards currently are: one foot of freeboard above the 100-year flood frequency water-surface elevation; 16 foot crown width; water side levee slopes of 1.5 to 1; and land side levee slopes of 2 to 1 or flatter. For non-project levees to be eligible for Corps' assistance in a Presidentially declared Delta disaster levees must meet PL-99 standards. Those standards are: 1.5 feet above 100 year flood frequency water surface elevation; 16 foot crown width; water side levee slopes of 2 to 1; and land side levee slopes of 3 to 1 to 5 to 1, depending on height of levee and depth of peat.



F-8. Materials for levee construction and repair have routinely been dredged from adjacent waterways. Environmental regulations to protect endangered fish and other restrictions have limited access to this traditional source of material. Historically lower costs of using dredged material have been offset by increased regulatory costs. Other sources of levee maintenance material include: on-island deposits; quarries; construction projects, including habitat enhancement projects; and spoils from authorized maintenance dredging projects by ports or flood control districts.

F-9. Historically, all costs of levee maintenance fell on the landowners, even though multiple beneficiaries of the levees have been identified. Currently, assistance from the State is available to reclamation districts for maintenance of non-project levees under the Delta Levee Maintenance Subventions Program, due to expire January 1, 1999. No federal funds are provided for the State's levee maintenance program. Federal property owners are not subject to reclamation district assessments. No federal or State funds are available to share routine maintenance costs of most Project levees with the local agency responsible for that maintenance.

F-10. To participate in the State-funded levee maintenance program, the reclamation districts are required to prepare additional environmental analysis, prepare more detailed engineering plans, obtain state and federal permits, and provide mitigation to offset unavoidable losses of habitat. These conditions have resulted in higher per mile costs of levee maintenance.

F-11. Due to the many State and federal regulatory agencies with authority in the Delta, lack of coordination between those agencies, and continually evolving issues, the length of time to obtain approvals for levee maintenance ranges from approximately six months to several years.

F-12. No special funds have been reserved exclusively for emergency levee repair work carried out by the State or reclamation districts. The State has several means to accomplish emergency work including Water Code Section 128, the California Emergency Services Act, interagency agreements, and funding from SB 34. Banks have recently indicated reluctance to accept warrants from reclamation districts limiting options for funding emergency work.

F-13. Loss of Delta levees could result in loss of life; lowered water quality for water diverted by local water systems and for export through the State and federal water systems; loss of freshwater due to increased evaporation; loss of property, including crops and structures; and loss of habitat. Rodent dens and tunnels, particularly those created by beaver and muskrat, can adversely affect levee stability and are thought to have been the cause of numerous levee failures.

F-14. Although no "active" faults have been identified in the Delta planning area, many Delta levees are built upon materials that would be inherently unstable in the case of a seismic event. A zone of buried thrust faults has been identified north-south along the western Delta; this type of fault was the source of the recent Northridge earthquake.

Although no Delta island has flooded as the result of seismic activity, Delta levees could suffer major damage in the event of a large earthquake.

F-15. Delta levees are subject to a number of factors which adversely affect the stability of the levees. Many of the levee foundations are unstable materials. The subsidence of the peat soils on many of the islands has resulted in increased pressure on the levees from water in the adjacent channels. The levees are constantly subjected to erosion from natural and created causes including: flood flow, tides, wind waves, vessel wakes, and waters drawn into the State and federal water projects.

Levee failures can be identified principally by the major mechanisms of failure (stability, overtopping, or subsurface seepage erosion), then more specifically by contributing factors (subsidence, cracks, and fractures, encroachments, waterside erosion, deformation, seepage, sinkholes, rodent burrows, and poor foundation conditions).

**Levees Policies:**

P-1. Local governments shall ensure that Delta levees are maintained to protect human life, to provide flood protection, to protect private and public property, to protect historic structures and communities, to protect riparian and upland habitat, to promote interstate and intrastate commerce, to protect water quality in the State and federal water projects, and to protect recreational use of the Delta area. Delta levee maintenance and rehabilitation shall be given priority over other uses of the levee areas. To the extent levee integrity is not jeopardized, other uses, including support of vegetation for wildlife habitat, shall be allowed.

P-2. If levee guidelines are needed, local governments shall adhere to guidelines for federal and local levee maintenance and construction at a minimum as stipulated in the Flood Hazard Mitigation Plan guidelines developed by California Office of Emergency Services and the Federal Emergency Management Agency in the 1987 agreement, and set longer term goals of meeting Public Law 84-99 (Emergency Rehabilitation of Flood Control Works or Federally Authorized Coastal Protection Works), standards administered by the Corps of Engineers. If vegetation standards are needed, local governments shall adopt the adopted vegetation guidelines, which promote native grasses and limited vegetation on specific areas of the levee.

P-3. Through flood ordinances based on Flood Emergency Management Act model ordinances, developed by the International Conference of Building Officials and included in the Uniform Building Code, local governments shall carefully and prudently carry out their responsibilities to regulate new construction within flood hazard areas to protect public health, safety, and welfare. Increased flood protection shall not result in densities beyond those allowed under zoning and general plan designations in place on January 1, 1992, for lands in the Primary Zone.

P-4. Local governments shall ensure that existing programs for emergency levee repair should be strengthened and better coordinated between local, State, and federal governments and shall include: interagency agreements and coordination; definition of an

emergency; designation of emergency funds; emergency contracting procedures; emergency permitting procedures; and other necessary elements.

P-5. Local governments shall use their authority to control levee encroachments that are detrimental to levee maintenance.

**Levees Recommendations:**

R-1. Levee maintenance, rehabilitation, and upgrading should be established as the first and highest priority of use of the levee. No other use whether for habitat, trails, recreational facilities, or roads should be allowed to unreasonably adversely impact levee integrity or maintenance.

R-2. Landowners, through reclamation districts, should pay a portion of levee maintenance costs. The overall citizenry of California and the United States that benefits from the state and federal water projects, commerce and navigation, travel, production of crops, recreation, and protection of fish and wildlife habitat should also pay a substantial portion of the cost of maintaining the Delta levees. New programs of determining assessments on mineral leases and other beneficiaries should be evaluated by reclamation districts.

R-3. Due to the difficulty in identifying all the beneficiaries of both State and federal levees and the entities that cause adverse impacts to the levees, the simplest way to collect the funds needed to maintain the levees would be through non-fungable allocations from both the State and federal government to fund regular, on-going levee maintenance.

R-4. Where efficiencies of scale would result in cost savings and levee systems of two or more reclamation districts provide protection to the same area, the State and other regulatory agencies should consider approval of requests made by reclamation districts for such consolidation.

R-5. If funding is made available to the reclamation districts for levee maintenance, mitigation for removal of vegetation required to maintain existing levees should be coordinated through a memorandum of understanding between reclamation districts, State, and federal agencies, which results in minimal fiscal impacts to reclamation districts and which will result in "no net long term loss" of habitat in the legal Delta.

R-6. A "clearinghouse" for material suitable for levee maintenance should be created to assist in distributing appropriate materials to sites slated for maintenance work. Materials which have value for levee maintenance work, such as materials routinely dredged from Delta channels or materials otherwise excavated from within the Delta area, should be reserved first for levee maintenance work. Other uses should be considered only if the material is not needed or is unsuitable for levee maintenance work. Regulations should establish priorities for in-Delta use of soil excavated from within the Delta.

R-7. Study appropriateness of materials from other sources for levee maintenance and repair, similar to the Long Term Management Strategy prepared for the San Francisco Bay region.

R-8. To lower levee maintenance costs, streamlined permitting systems for authorization of dredging for levee maintenance and rehabilitation work, including the improvement of wildlife habitat and habitat mitigation sites, and for levee upgrading to mandated standards to protect public health and safety, should be instituted, with one state agency designated as lead agency and one federal agency designated as lead agency. Federal agency concurrence in such designations should be obtained.

R-9. The program for emergency levee repair should be strengthened. The program should include: definition of an emergency; designation of emergency funds; emergency contracting procedures; emergency permitting procedures and the designation of a State agency to provide immediate response to floodfight, close levee breaks, and dewater flooded areas where local agencies are unable to respond. An emergency program should develop a funding program to assist reclamation districts that are unable to pay such costs.

R-10. Maintain an inventory of the current status of Delta levees meeting various standards (HMP; PL-99; etc.).

R-11. Maintain an inventory of channel areas where toxic materials have been identified.

R-12. Levee maintaining agencies and fish and wildlife agencies should continue to cooperate to establish appropriate vegetation guidelines. Continuation of the SB 34 Program with its incentive funding for mitigation should be supported as the best way to accomplish the goals of levee maintenance with no net long term loss of habitat.

R-13. As much as feasible, levees should be designed and maintained to protect against damage from seismic activity. Those standards should not promote increased intensity or density of use beyond those designated as of January 1, 1992.

R-14. Support on-going U.S. Army Corps of Engineers studies and programs that could provide funding, flood protection, and environmental restoration on Delta islands, and support further involvement to improve regulatory streamlining and study beneficial reuse of dredged material.